768 Southleaf Dr.
Virginia Beach, VA 23462
aconwell@clinellc.com
215.588.7035

January 3, 2023

Melanie A. Bachman
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modifications – AT&T Site CT1070
AT&T Telecommunications Facility @ 52 East Center Street Manchester, CT 06040

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains a wireless telecommunications facility on an existing +/- 198' monopole tower at the above referenced address, latitude 41.77563111, longitude -72.5208050. Said self-support tower is owned and managed by EIP Communications I, LLC.

AT&T desires to modify its existing telecommunications facility by replacing nine (9) antennas, replacing three (3) RRUs, and replacing one (1) surge arrestor with the associated cables as more particularly detailed and described on the enclosed Construction Drawings prepared by Hudson Design Group, last revised on September 9, 2022. The centerline height of the existing antennas is and will remain at 63 feet.

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A §16-50j-72(b)(2). In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: Steve Stephanou Town General Manager for the Town of Manchester: Gary Anderson Director of Planning and Economic Development: Michael Ashley Culbert for EIP Communications as tower owner and Southern New England Telephone Company as property owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commissions safety standard. *Please see the RF emissions calculation for AT&T's modified facility enclosed herewith.*
5. The proposed modifications will not cause an ineligible change or alternation in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading. Please see the structural analysis dated October 27, 2022 and prepared by Tower Engineering Professionals enclosed herewith.

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A §16-50j-72(b)(2).

Best Regards,

Allison Conwell
Site Acquisition Consultant – Agent for AT&T
Centerline Communications LLC
750 West Center St. Ste 301
West Bridgewater, MA 02379
215-588-7035
aconwell@clinellc.com

Enclosures:
Exhibit 1 – Construction Drawings
Exhibit 2 – Property Card and GIS
Exhibit 3 – Structural Analysis
Exhibit 4 – Mount Analysis
Exhibit 5 – RF Emissions Analysis Report Evaluation
Exhibit 6 – Available Town of Manchester Original Tower Approval Records
Exhibit 7 – Notice Deliver Confirmations

Cc:
Steve Stephanou, as elected official, Town of Manchester
Gary Anderson Director of Planning and Development, Town of Manchester
EIP Communications I, LLC, Tower Owner
Southern New England Telephone Company, as Property Owner

EXHIBIT 1

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING (ROOFTOP) SELF SUPPORT TOWER:
- PROPOSED AT&T LTE ANTENNAS (TPA65R-BU6DA-K) @ POS. 2 (TYP. 1 PER ALPHA & BETA SECTOR, TOTAL OF 2).
- PROPOSED AT&T LTE ANTENNAS (TPA65R-BU8DA-K) @ POS. 2 (GAMMA SECTOR, TOTAL OF 1).
- PROPOSED AT&T LTE ANTENNAS (AIR6449 B77D) @ POS. 3 (TYP. 1 PER SECTOR, TOTAL OF 3)(STACKED) (TOP).
- PROPOSED AT&T LTE ANTENNAS (AIR6419 B77G) @ POS. 3 (TYP. OF 1 PER SECTOR, TOTAL OF 3)(STACKED) (BOTTOM).
- PROPOSED AT&T RRUS (4415 B25) @ POS. 2 (TYP. 1 PER SECTOR, TOTAL OF 3).
- PROPOSED AT&T DC SURGE ARRESTOR DC9-48-60-24-8C-EV (TOTAL OF 1) WITH (1) 6 AWG DC TRUNK & (1) 24 PAIR FIBER

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:
- ADD 6648 + XCEDE TO EXISTING BASEBAND.
- FINAL BASEBAND = 1x5216+2xXMU+1x6630+IDLe+6673
- INSTALL (3) -48V RECTIFIERS FOR A TOTAL OF (10) -48V RECTIFIERS
- INSTALL (5) STRING OF 190AH BATTERIES.

ITEMS TO BE REMOVED:
- DECOMMISSION EXISTING AT&T UMTS ANTENNA (80010121) @ POSITION 2 (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- DECOMMISSION EXISTING AT&T LTE ANTENNAS (OPA65R-BU6DA) @ POSITION 3 (TYP. 1 PER ALPHA & BETA SECTOR, TOTAL OF 2).
- DECOMMISSION EXISTING AT&T LTE ANTENNAS (QS66512-2) @ POSITION 4 (TYP. 1 PER ALPHA & BETA SECTOR, TOTAL OF 2).
- DECOMMISSION EXISTING AT&T LTE ANTENNA (OPA65R-BU8DA) @ POSITION 3 (GAMMA SECTOR, TOTAL OF 1).
- DECOMMISSION EXISTING AT&T LTE ANTENNA (TPA-65R-LCUUUU-H8) @ POSITION 4 (GAMMA SECTOR, TOTAL OF 1).
- DECOMMISSION EXISTING AT&T RRUS (RRUS-12 B2) GROUND (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- DECOMMISSION EXISTING AT&T TMA (CM1007-DBPXBC-003) (TYP. OF 2 PER SECTOR, TOTAL OF 6).
- DECOMMISSION EXISTING AT&T TMA (CCI-DTMABP7819VG12A) (TYP. OF 1 PER SECTOR, TOTAL OF 3).
- DECOMMISSION EXISTING AT&T TRIPLEXERS (TPX-070821) (TYP. OF 4 PER SECTOR, TOTAL OF 12).
- DECOMMISSION EXISTING AT&T DC SURGE ARRESTOR (DC6-48-60-08F) (TOTAL OF 1).
- DECOMMISSION EXISTING AT&T COAX CABLES (7/8") (TOTAL OF 6).
- REMOVE (5) STRING OF BATTERIES.

ITEMS TO REMAIN:
- (3) ANTENNAS, (12) RRU'S, (2) SURGE ARRESTOR, (6) COAX CABLES, (6) DC POWER & (2) FIBER.

SITE ADDRESS:	52 EAST CENTER STREET MANCHESTER, CT 06040
LATITUDE:	41.7756311° N, 41° 46' 32.27" N
LONGITUDE:	-72.5208050° W, 72° 31' 14.89" W
TYPE OF SITE:	(ROOFTOP) SELF SUPPORT TOWER / INDOOR EQUIPMENT
STRUCTURE HEIGHT:	65'-7"±
RAD CENTER:	63'-0"±
CURRENT USE:	TELECOMMUNICATIONS FACILITY
PROPOSED USE:	TELECOMMUNICATIONS FACILITY

DRAWING INDEX

SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	B
GN-1	GENERAL NOTES	B
A-1	ROOF & EQUIPMENT PLANS	B
A-2	EXISTING & PROPOSED ANTENNA PLANS	B
A-3	ELEVATION	B
A-4	DETAILS	B
A-5	DETAILS	B
G-1	GROUNDING DETAILS	B
RF-1	RF PLUMBING DIAGRAM	B

SITE NUMBER: CTL01070

SITE NAME: MANCHESTER-EAST CENTER ST

FA CODE: 10035030

PACE ID: MRTCB057966, MRCTB057962, MRCTB051047, MRCTB052260

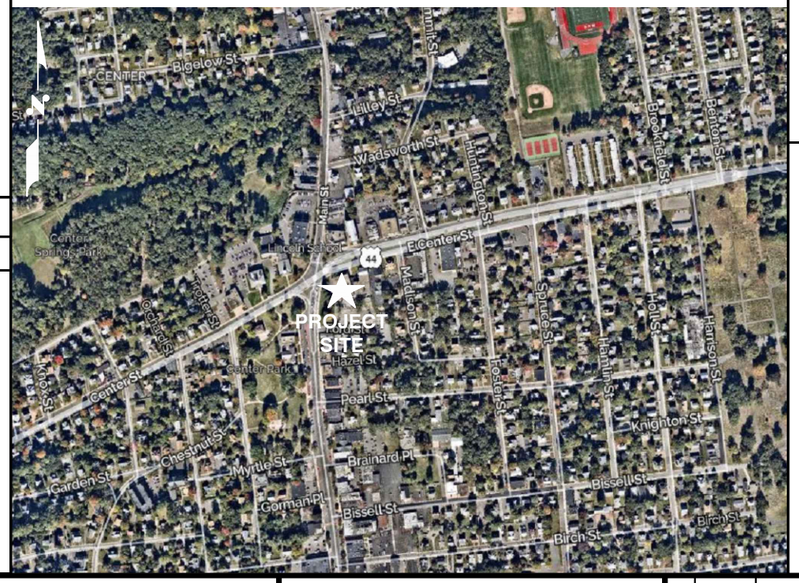
PROJECT: 5G NR RADIO, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

ISSUED FOR PERMITTING

VICINITY MAP

DIRECTIONS TO SITE:

HEAD SOUTHEAST TOWARD CAPITAL BLVD, TURN LEFT ONTO CAPITAL BLVD, USE THE LEFT LANE TO TURN LEFT ONTO STATE HWY 411, TURN LEFT TO MERGE WITH I-91 N, MERGE WITH I-91 N, USE THE LEFT LANE TO TAKE EXIT 29 FOR U.S.5 N/CONNECTICUT 15 N/I-84 E TOWARD E HARTFORD/BOSTON, MERGE WITH US-5 N, CONTINUE ONTO CT-15 N, TAKE THE EXIT ON THE LEFT ONTO I-84 E TOWARD BOSTON, TAKE EXIT 59 FOR I-384 E TOWARD PROVIDENCE, CONTINUE ONTO I-384, TAKE EXIT 3 TO MERGE WITH CT-83 N/MAIN ST, MERGE WITH CT-83 N/MAIN ST PASS BY 7-ELEVEN, TURN RIGHT ONTO FORD ST, TURN LEFT DESTINATION WILL BE ON THE LEFT.



GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.
4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS

CALL
BEFORE YOU DIG
CALL TOLL FREE 1-800-922-4455
OR CALL 811

UNDERGROUND SERVICE ALERT

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CTL01070
SITE NAME: MANCHESTER-EAST CENTER ST

52 EAST CENTER STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	09/01/22	ISSUED FOR PERMITTING	JS	AT	DPH
A	04/25/22	ISSUED FOR REVIEW	GD	AT	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GD

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

TITLE SHEET
5G NR RADIO, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01070	T-1	B

GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.

2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81 STANDARDS) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS AND #2 AWG STRANDED COPPER FOR OUTDOOR BTS.

6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

   CONTRACTOR – CENTERLINE
   SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – AT&T MOBILITY

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.

3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.

9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.

10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.

13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. **APPLICABLE BUILDING CODES:**
    SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

    BUILDING CODE: IBC 2015 WITH 2018 CT STATE BUILDING CODE AMENDMENTS
    ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE (NFPA 70-2017)

    SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

    AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

    AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, FOURTEENTH EDITION;

    TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD CL	RADIATION CENTER LINE (ANTENNAS)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CTL01070
SITE NAME: MANCHESTER-EAST CENTER ST

52 EAST CENTER STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	09/01/22	ISSUED FOR PERMITTING	GD	AT	DPH
A	04/25/22	ISSUED FOR REVIEW	GD	AT	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GD

STATE OF CONNECTICUT · DANIEL P. HAMM · No. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

GENERAL NOTES
5G NR RADIO, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01070	GN-1	B

NOTE:

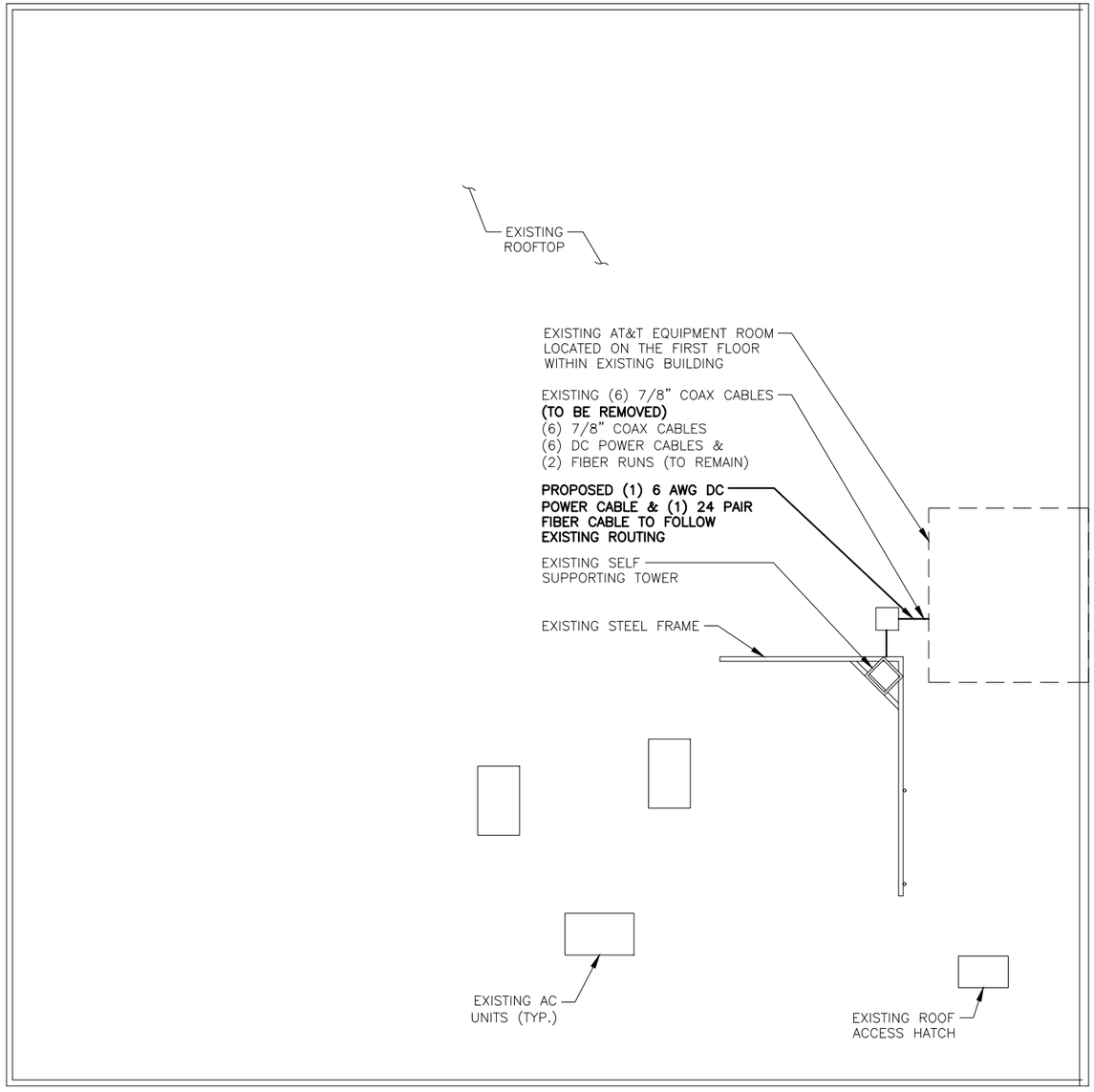
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 25, 2022

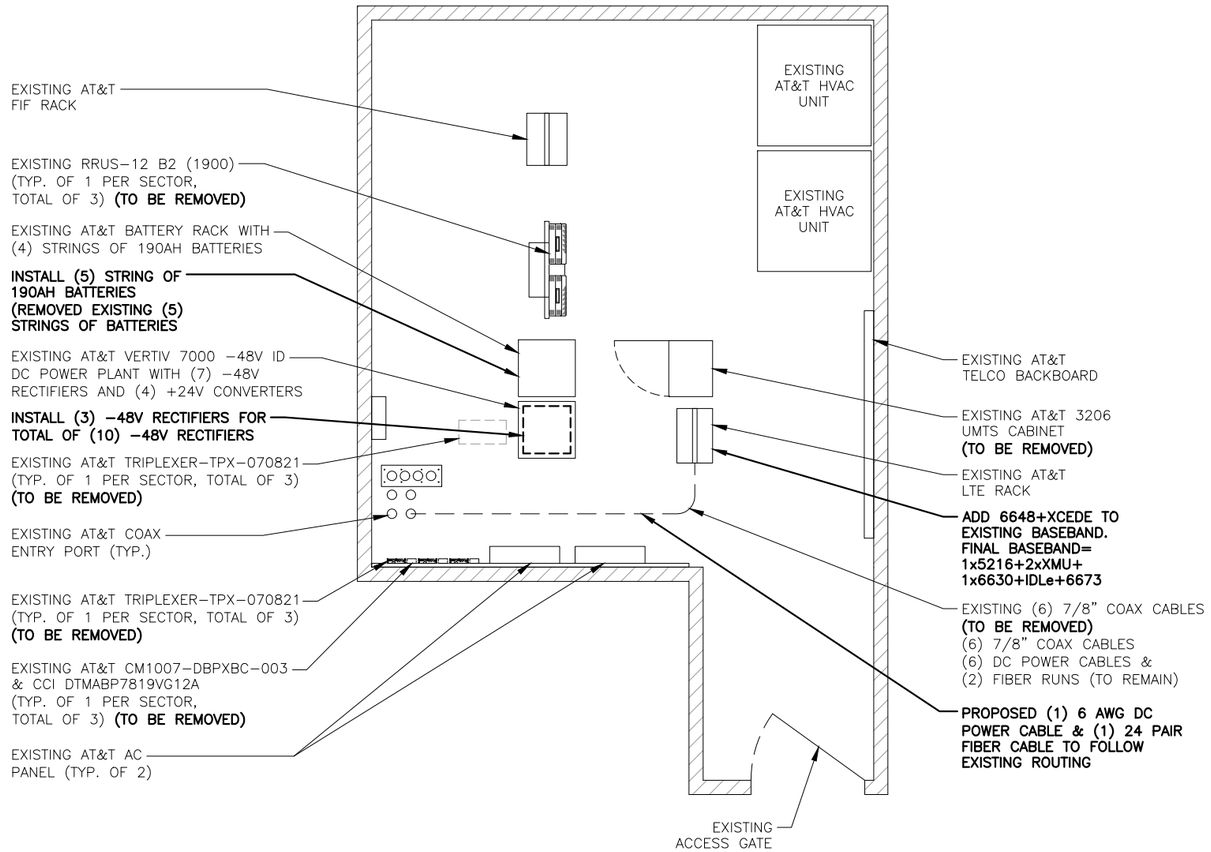
NOTE:

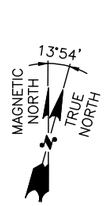
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.





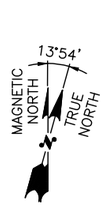


1 / A-4

ROOF PLAN
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

1 / A-1

0 4'-0" 8'-0" 16'-0" 24'-0"



EQUIPMENT PLAN
22x34 SCALE: 3/8"=1'-0"
11x17 SCALE: 3/16"=1'-0"

2 / A-1

0 1'-4" 2'-8" 5'-4" 8'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CTL01070
SITE NAME: MANCHESTER-EAST CENTER ST

52 EAST CENTER STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	09/01/22	ISSUED FOR PERMITTING	AT	DPH	
A	04/25/22	ISSUED FOR REVIEW	GD	DPH	

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GD

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

ROOF & EQUIPMENT PLANS
5G NR RADIO, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01070	A-1	B

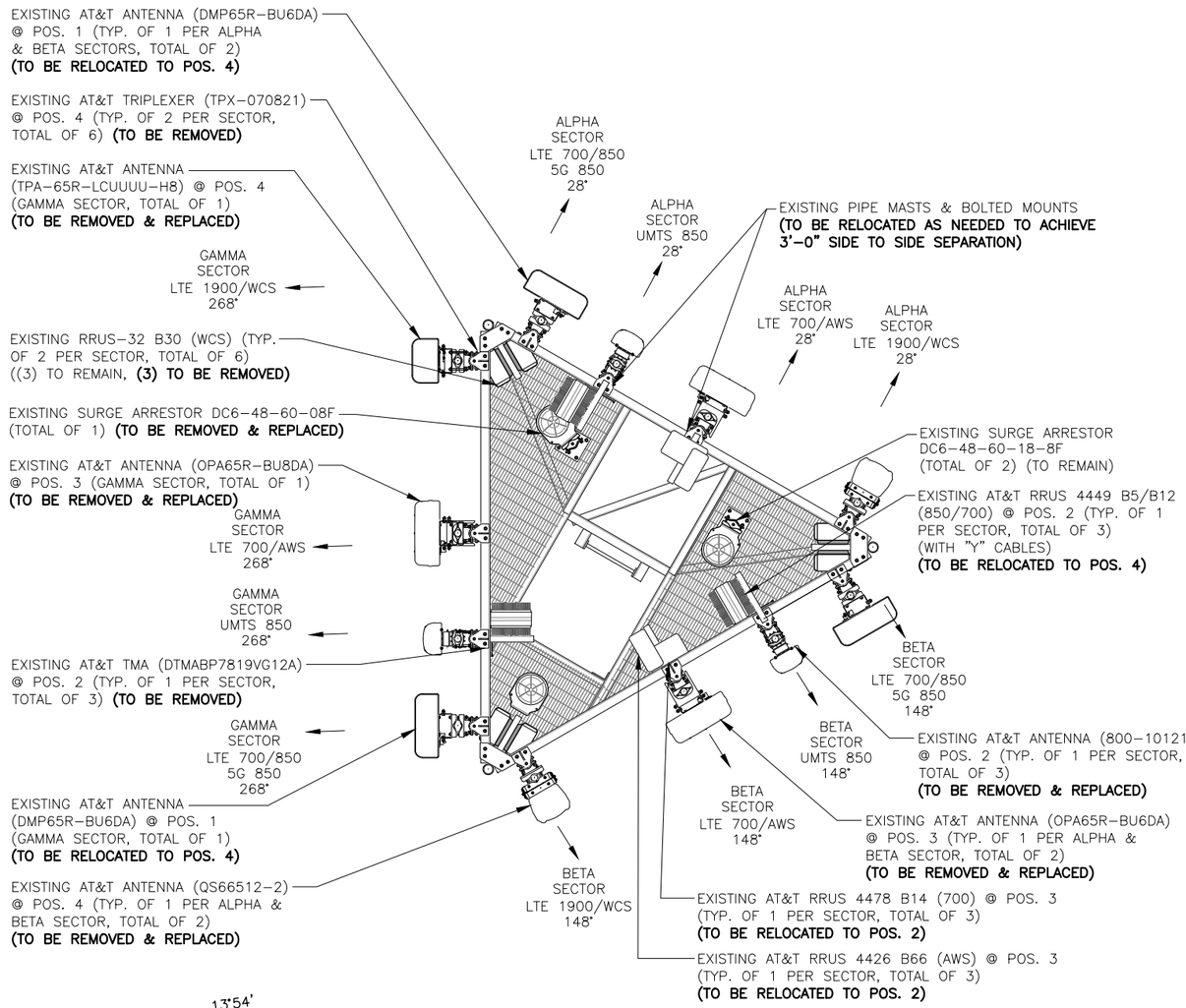
NOTE:
BACK TO BACK MOUNTS TO BE ADJUSTED AS NEEDED TO ACHIEVE 8" MIN. SEPARATION FROM BACKS OF ANTENNAS.

NOTE:
ANTENNAS AND MOUNTS TO BE ADJUSTED AS REQUIRED TO ACHIEVE A 3'-0" MINIMUM SEPARATION BETWEEN ANTENNAS

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 25, 2022

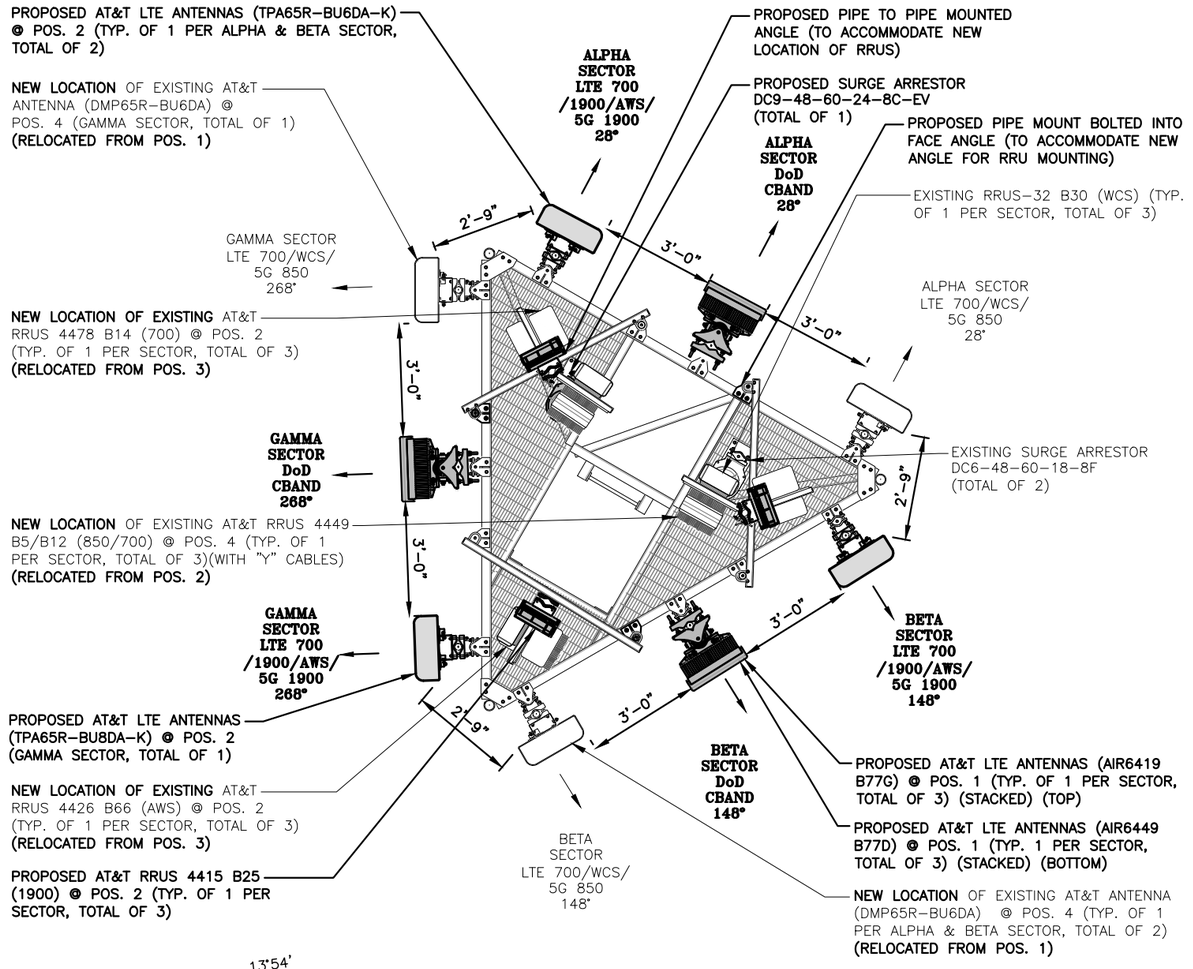


EXISTING ANTENNA PLAN

1 / A-2

22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"



PROPOSED ANTENNA PLAN

2 / A-2

22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CTL01070
SITE NAME: MANCHESTER-EAST CENTER ST

52 EAST CENTER STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	09/01/22	ISSUED FOR PERMITTING	JS	AT	DPH
A	04/25/22	ISSUED FOR REVIEW	GD	AT	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GD

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

EXISTING & PROPOSED ANTENNA PLANS
5G NR RADIO, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01070	A-2	B

NOTE:

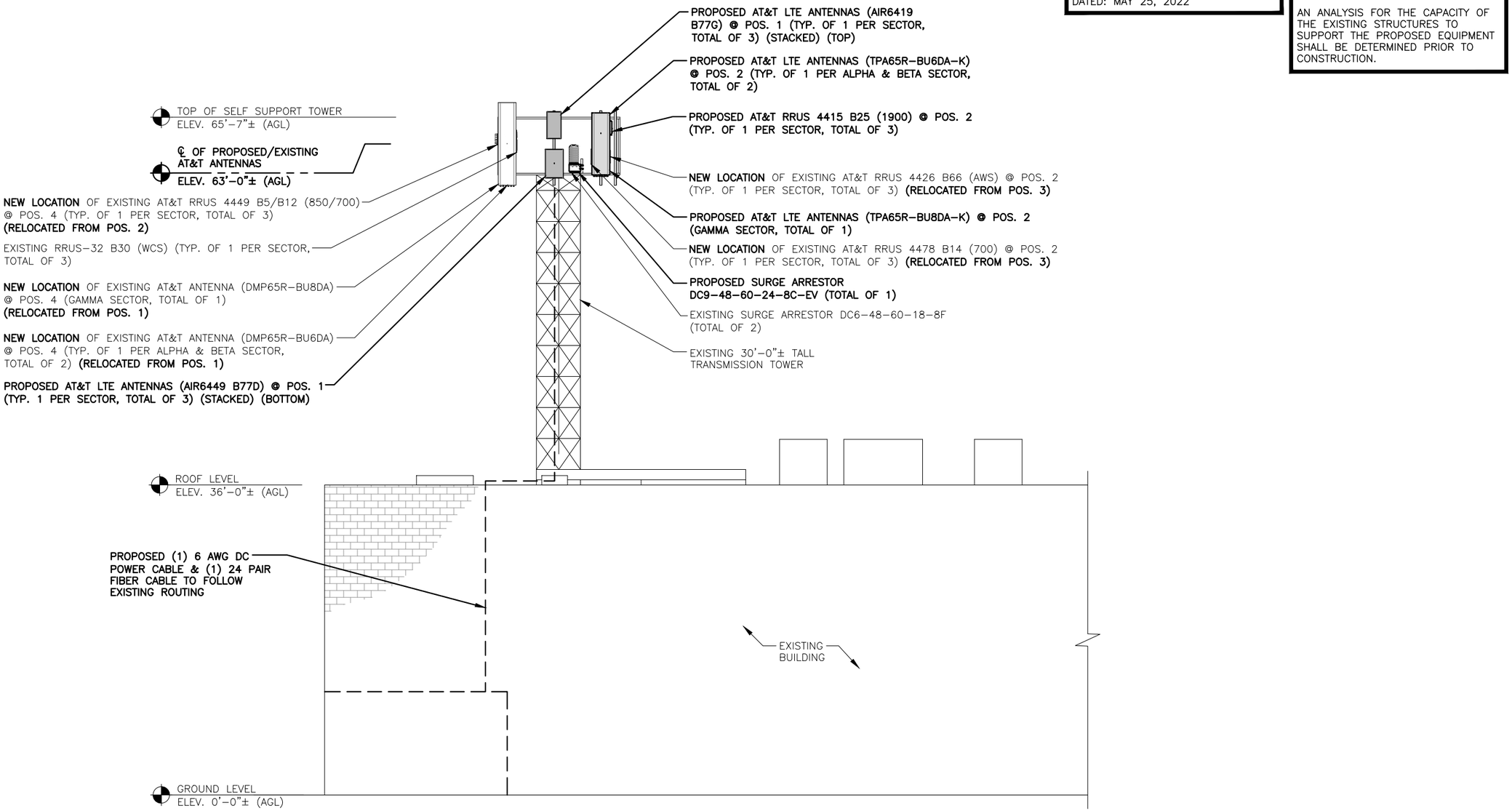
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 25, 2022

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



ELEVATION 1/A-3
22x34 SCALE: 1/8"=1'-0"
11x17 SCALE: 1/16"=1'-0"

0 4'-0" 8'-0" 16'-0" 24'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CTL01070
SITE NAME: MANCHESTER-EAST CENTER ST

52 EAST CENTER STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK
B	09/01/22	ISSUED FOR PERMITTING	JS	AT DPH
A	04/25/22	ISSUED FOR REVIEW	GD	AT DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GD

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

ELEVATION
5G NR RADIO, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01070	A-3	B

ANTENNA SCHEDULE

SECTOR	EXISTING/ PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA ℄ HEIGHT	AZIMUTH	TMA/ COMBINER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	–	–	–	–	–	–	–	–	–	–	–
A2	**PROPOSED**	**LTE 700/1900 /AWS/5G 1900**	**TPA65R-BU6DA-K**	**71.2"X20"X7.7"**	**63'-0"±**	**28°**	–	(E)(1) 4478 B14 (700) (E)(1) 4426 B66 (AWS) **(P)(1) 4415 B25 (1900)**	– – **16.5X13.4X5.9**	(E)(2) 7/8" COAX (E)(2) DC CABLES (1) FIBER	(E) (1) RAYCAP DC6-48-60-18-8F
A3	**PROPOSED**	**DOD C-BAND**	**AIR 6419 B77G AIR 6449 B77D**	**31.1"X16.1X7.3" 30.4"X15.9"X8.1"**	**63'-0"±**	**28°**	–	–	– –	–	
A4	EXISTING	LTE 700 /WCS/5G 850	DMP65R-BU6DA	71.2"X20.7X7.7"	63'-0"±	28°	–	(E)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B30 (WCS)	– –	(E) (1) Y-CABLE –	
B1	–	–	–	–	–	–	–	–	–	–	–
B2	**PROPOSED**	**LTE 700/1900 /AWS/5G 1900**	**TPA65R-BU6DA-K**	**71.2"X20"X7.7"**	**63'-0"±**	**148°**	–	(E)(1) 4478 B14 (700) (E)(1) 4426 B66 (AWS) **(P)(1) 4415 B25 (1900)**	– – **16.5X13.4X5.9**	(E)(2) 7/8" COAX (E)(2) DC CABLES (1) FIBER	(E) (1) RAYCAP DC6-48-60-18-8F
B3	**PROPOSED**	**DOD C-BAND**	**AIR 6419 B77G AIR 6449 B77D**	**31.1"X16.1X7.3" 30.4"X15.9"X8.1"**	**63'-0"±**	**148°**	–	–	– –	–	
B4	EXISTING	LTE 700 /WCS/5G 850	DMP65R-BU6DA	71.2"X20.7X7.7"	63'-0"±	148°	–	(E)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B30 (WCS)	– –	(E) (1) Y-CABLE –	
C1	–	–	–	–	–	–	–	–	–	–	–
C2	**PROPOSED**	**LTE 700/1900 /AWS/5G 1900**	**TPA65R-BU8DA-K**	**96"X20.7"X7.7"**	**63'-0"±**	**268°**	–	(E)(1) 4478 B14 (700) (E)(1) 4426 B66 (AWS) **(P)(1) 4415 B25 (1900)**	– – **16.5X13.4X5.9**	(E)(2) 7/8" COAX (E)(2) DC CABLES (1) FIBER	**(P) (1) RAYCAP DC9-48-60-24-8C-EV**
C3	**PROPOSED**	**DOD C-BAND**	**AIR 6419 B77G AIR 6449 B77D**	**31.1"X16.1X7.3" 30.4"X15.9"X8.1"**	**63'-0"±**	**268°**	–	–	– –	**(P)(1) 6 AWG DC CABLES (P)(1) 24 PAIR FIBER**	
C4	EXISTING	LTE 700 /WCS/5G 850	DMP65R-BU8DA	96"X20.7X7.7"	63'-0"±	268°	–	(E)(1) 4449 B5/B12 (850/700) (E)(1) RRUS-32 B30 (WCS)	– –	(E) (1) Y-CABLE –	

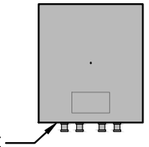
RRU CHART

QUANTITY	MODEL	SIZE (L x W x D)
3(E)	RRUS-4426 B66 (AWS)	27.2"X12.1"X7.0"
3(E)	RRUS-32 B30 (WCS)	27.2"X12.1"X7.0"
3(E)	RRUS-4478 B14 (700)	18.1"X13.4"X8.3"
3(E)	RRUS-4449 B5/B12 (700)	17.9"X13.9"X9.4"
3(P)	**RRUS-4415 B25 (1900)**	**16.5"X13.4"X5.9"**

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:

SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER



PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL (2 / A-4)
SCALE: N.T.S

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

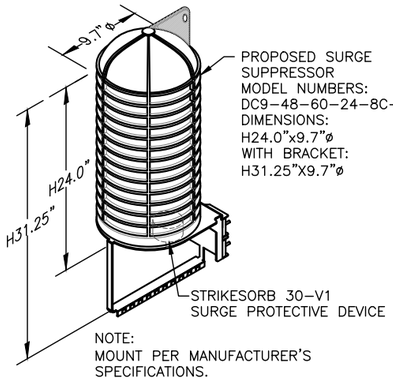
NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

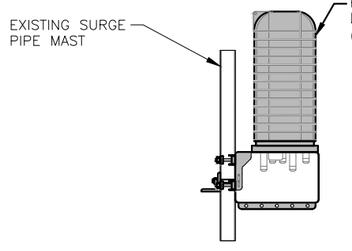
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 25, 2022

FINAL ANTENNA CONFIGURATION (1 / A-4)
SCALE: N.T.S



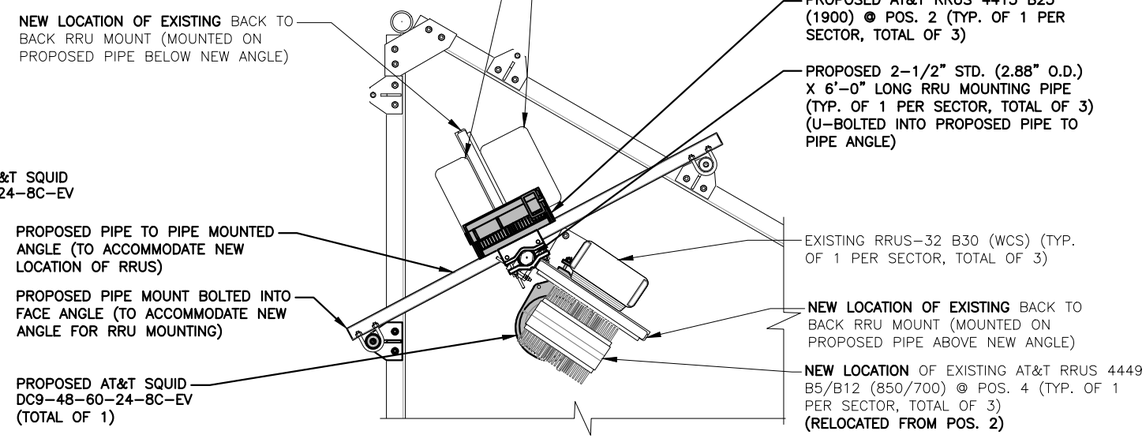
NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL (3 / A-4)
SCALE: N.T.S



PROPOSED SURGE PROTECTOR MOUNTING DETAIL (4 / A-4)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0" 3'-0"



PROPOSED RADIO MOUNTING DETAIL (5 / A-4)
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

0 0'-6" 1'-0" 2'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CTL01070
SITE NAME: MANCHESTER-EAST CENTER ST

52 EAST CENTER STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	09/01/22	ISSUED FOR PERMITTING	JS	AT	DPH
A	04/25/22	ISSUED FOR REVIEW	GD	MCA	DPH

SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GD

STATE OF CONNECTICUT · DANIEL P. HAMM · NO. 24178 · LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS
5G NR RADIO, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01070	A-4	B

NOTE:

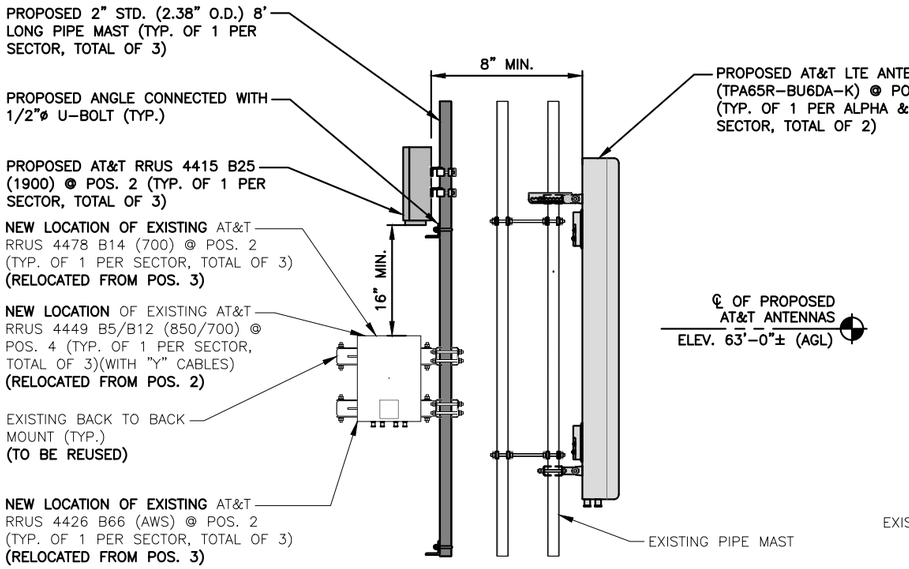
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

NOTE:

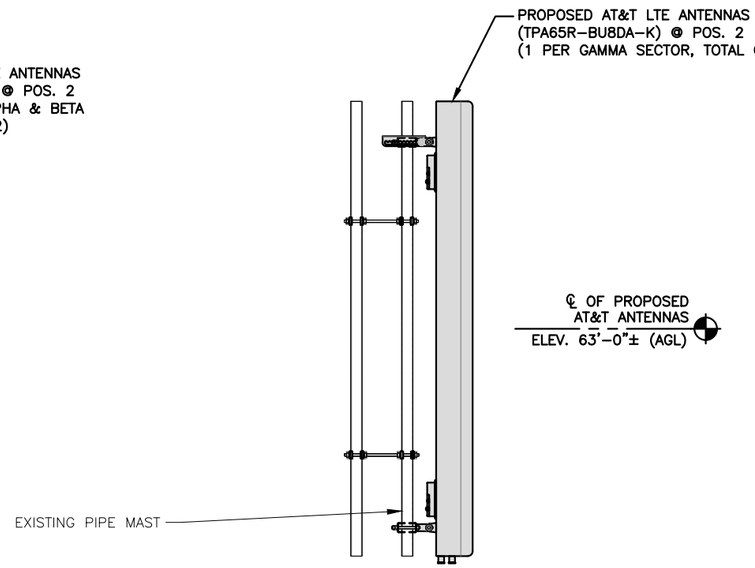
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING **ANTENNA MOUNT** TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: MAY 25, 2022



PROPOSED ANTENNA MOUNTING DETAIL @ POS. 2 (ALPHA & BETA SECTOR) (1 / A-5)

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

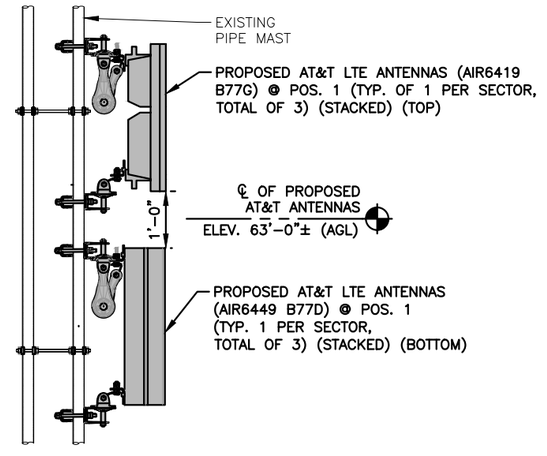
0 8" 1'-4" 2'-8" 4'-0"



PROPOSED ANTENNA MOUNTING DETAIL @ POS. 2 (GAMMA SECTOR) (2 / A-5)

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

0 8" 1'-4" 2'-8" 4'-0"



PROPOSED ANTENNA MOUNTING DETAIL @ POS. 3 (3 / A-5)

22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

0 8" 1'-4" 2'-8" 4'-0"

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CTL01070
SITE NAME: MANCHESTER-EAST CENTER ST

52 EAST CENTER STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	09/01/22	ISSUED FOR PERMITTING	JS	AT	DPH
A	04/25/22	ISSUED FOR REVIEW	GD	AT	DPH

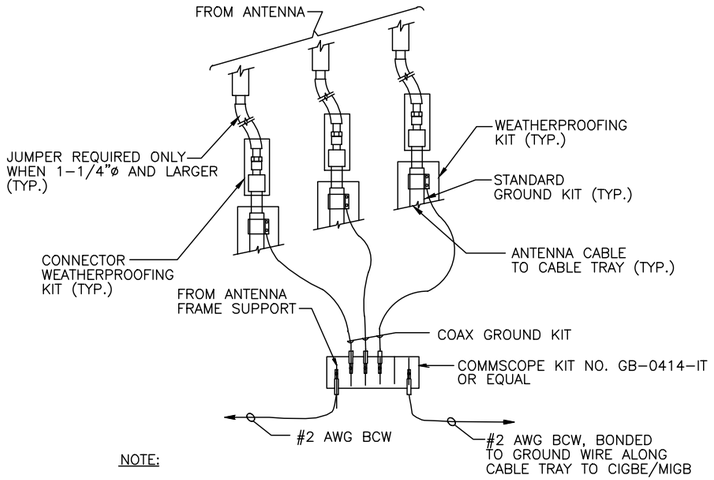
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GD

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

DETAILS
5G NR RADIO, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01070	A-5	B



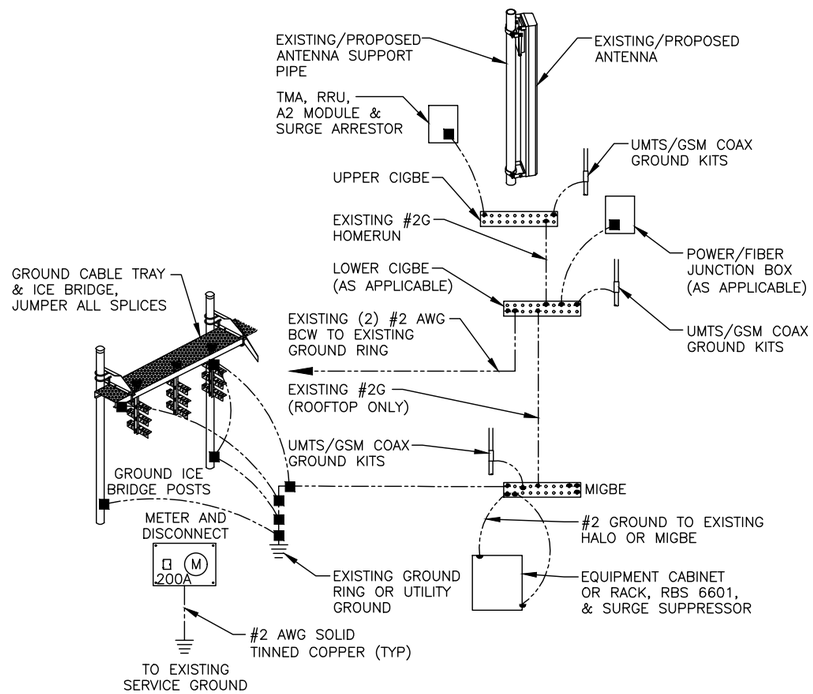
NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

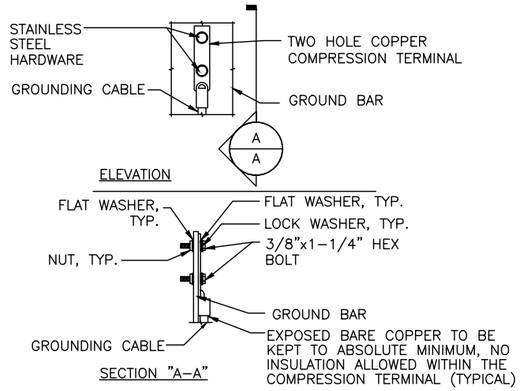
1 / G-1



GROUNDING RISER DIAGRAM

SCALE: N.T.S

2 / G-1



NOTES:

1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

3 / G-1

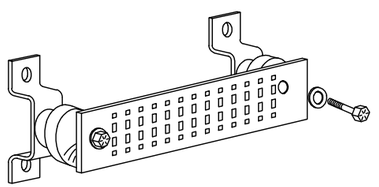
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" – SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2 AWG)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2 AWG)
+24V POWER SUPPLY RETURN BAR (#2 AWG)
-48V POWER SUPPLY RETURN BAR (#2 AWG)
RECTIFIER FRAMES.

SECTION "A" – SURGE ABSORBERS

INTERIOR GROUND RING (#2 AWG)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2 AWG)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2 AWG)
BUILDING STEEL (IF AVAILABLE) (#2 AWG)



GROUND BAR - DETAIL (AS REQUIRED)

SCALE: N.T.S

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CTL01070
SITE NAME: MANCHESTER-EAST CENTER ST

52 EAST CENTER STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	09/01/22	ISSUED FOR PERMITTING	JS	AT	DPH
A	04/25/22	ISSUED FOR REVIEW	GD	MCA	DPH

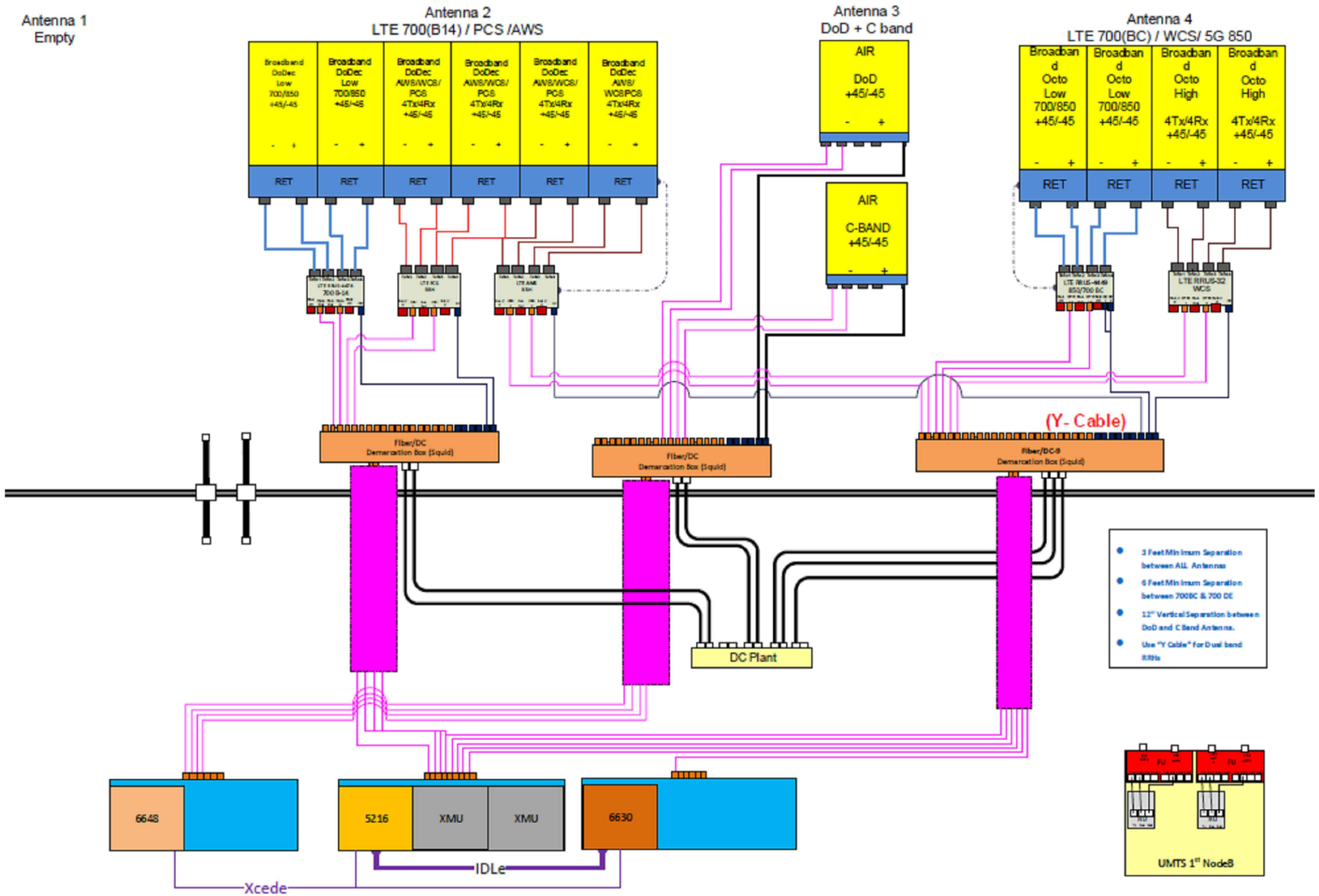
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GD

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

AT&T

GROUNDING DETAILS
~~5G NR RADIO~~, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01070	G-1	B



RF PLUMBING DIAGRAM (1 / RF–1)
SCALE: N.T.S

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

HUDSON Design Group LLC
45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE COMMUNICATIONS
750 WEST CENTER STREET, SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CTL01070
SITE NAME: MANCHESTER-EAST CENTER ST

52 EAST CENTER STREET
MANCHESTER, CT 06040
HARTFORD COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

NO.	DATE	REVISIONS	BY	CHK	APP'D
B	09/01/22	ISSUED FOR PERMITTING	JS	AT	DPH
A	04/25/22	ISSUED FOR REVIEW	GD	MKT	DPH

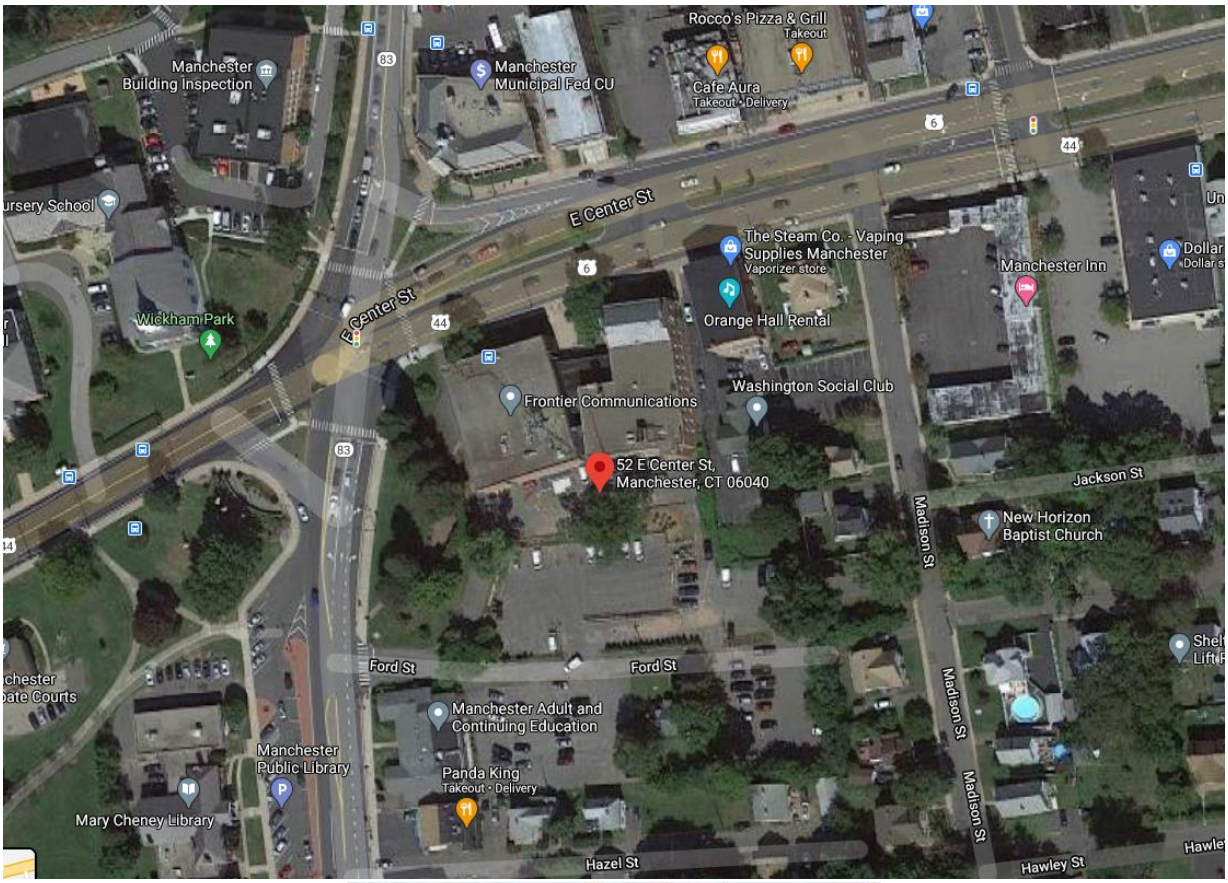
SCALE: AS SHOWN | DESIGNED BY: AT | DRAWN BY: GD

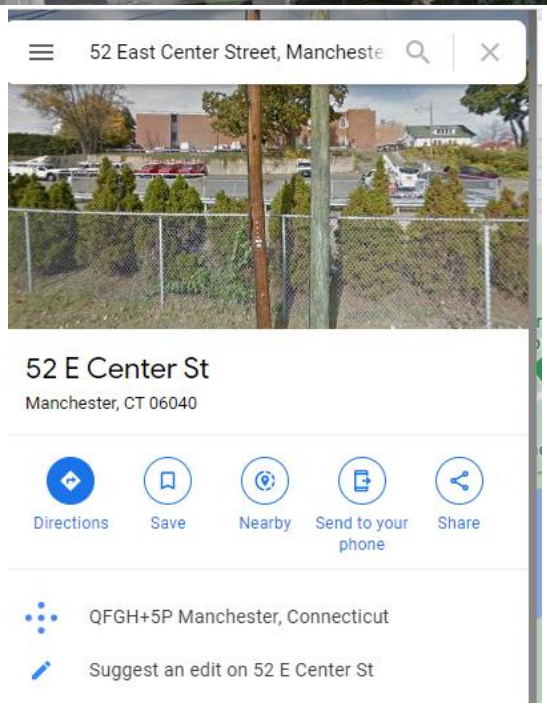
AT&T

RF PLUMBING DIAGRAM
5G NR RADIO, 5G NR 1SR CBAND, 5G NR SOFTWARE RADIO, 5G NR ACTIVATION, 2022 UPGRADE

SITE NUMBER	DRAWING NUMBER	REV
CTL01070	RF–1	B

EXHIBIT 2


Rocco's Pizza & Grill
Takeout
Manchester Building Inspection
Manchester Municipal Fed CU
Cafe Aura
Takeout • Delivery
E Center St
The Steam Co. - Vaping Supplies Manchester
Vaporizer store
Manchester Inn
Wickham Park
Orange Hall Rental
Frontier Communications
Washington Social Club
52 E Center St, Manchester, CT 06040
Jackson St
New Horizon Baptist Church
Madison St
Ford St
Manchester Adult and Continuing Education
Manchester Public Library
Panda King
Takeout • Delivery
Mary Cheney Library
Hazel St
Hawley St


52 East Center Street, Manchester
52 E Center St
Manchester, CT 06040
Directions
Save
Nearby
Send to your phone
Share
QFGH+5P Manchester, Connecticut
Suggest an edit on 52 E Center St

Town of Manchester, CT

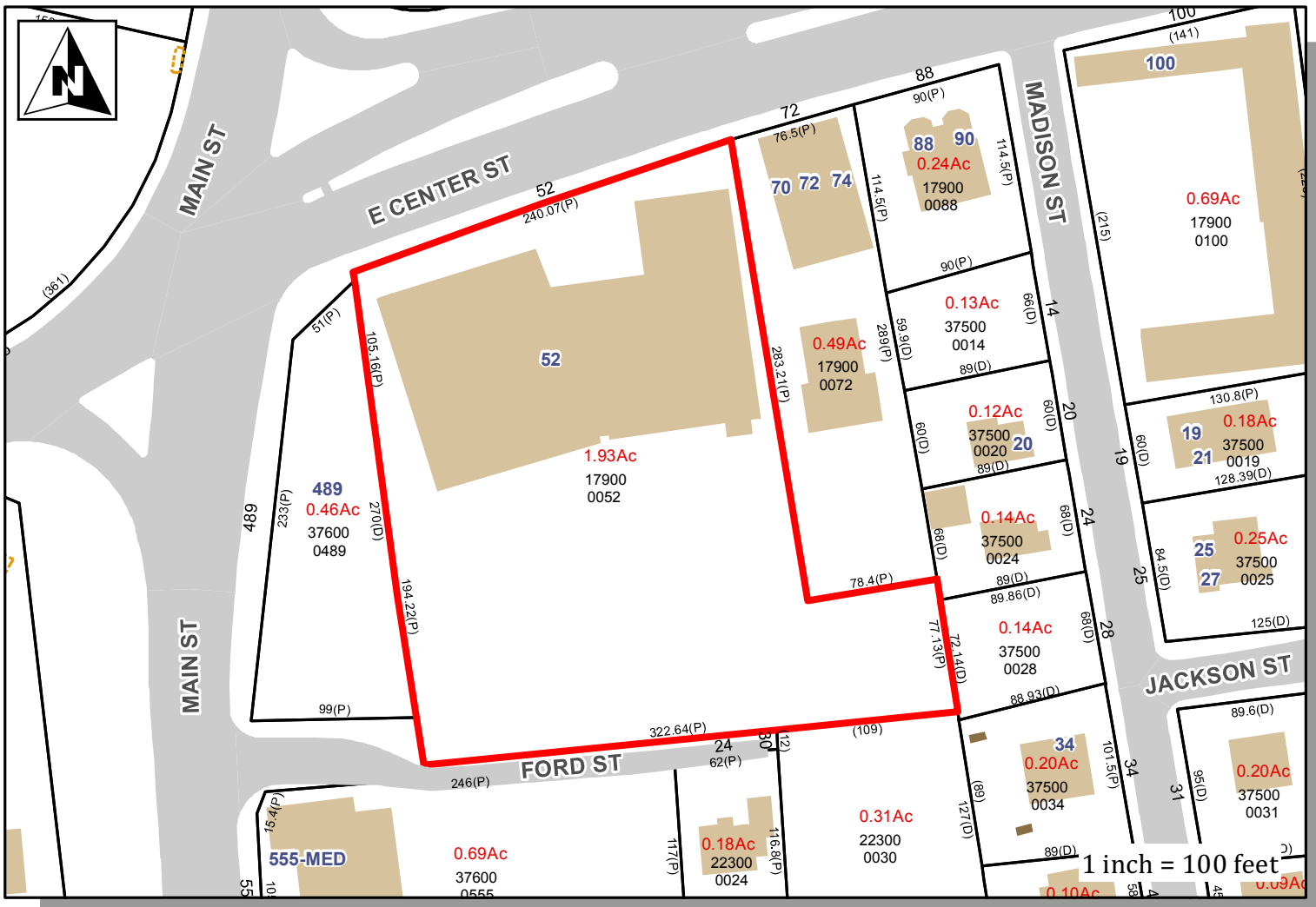
Address: 52 EAST CENTER STREET

RPKEY: 179000052

Property Information:

Mailing Address:	52 E CENTER ST MANCHESTER, CT
Owner Name:	SOUTHERN NEW ENGLAND TELEPHONE COMPANY
Owner Address:	1 SBC CTR UNIT 36-M-0 ST LOUIS, MO 63101
Land Class:	Pub Util 96
Land Use Code:	400
Zoning:	B3

Acreage:	1.93
Year Built:	1929
Appraisal:	1745700
Assessment:	1221900
Sale Price:	$0.00
Sale Date:	12/06/1961
Book/Page:	374/162



Report Created: 9/11/2020

EXHIBIT 3

October 27, 2022

Andy Dykstra
Everest Infrastructure Partners
Two Allegheny Center, Nova Tower 2, Suite 703
Pittsburgh, PA 15212
(412) 489-0348

Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351
Structures@tepgroup.net

Subject: Structural Analysis Report

Carrier Designation:	***AT&T Mobility, LLC* Reconfiguration**	
	Site Number:	CT1070
	Site Name:	Manchester-East Center St.
Client Designation:	**Site Number:**	701816
	Site Name:	Manchester CO
Engineering Firm Designation:	**TEP Project Number:**	257649.779732
Site Data:	**52 East Center Street, Manchester, Hartford County, CT 06040** **Latitude *41° 46' 32.41 "*, Longitude *-72° 31' 15.09"*** **22.5 ± Foot - Self-Support Tower on 37.5 ± Foot Rooftop**	

Dear Andy Dykstra,

Tower Engineering Professionals is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the stress level for the tower and foundation structure, under the following load case, to be:

LC1: Existing + Proposed + Reserved Loading **Sufficient Capacity**
Note: See Table 1 for the existing, proposed, and reserved loading

Tower Structure Capacity	Base Frame Capacity
62.2%	77.0%

The analysis has been performed in accordance with the ANSI/TIA-222-H Structural Standard for Antenna Supporting Structures and Antennas – Addendum 2 and the 2022 Connecticut State Building Code.

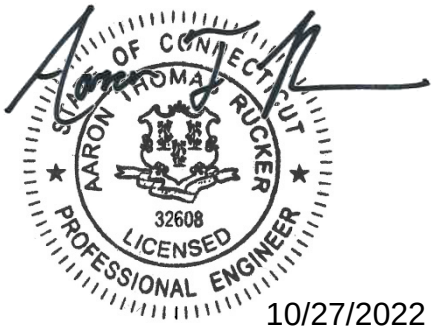
All modifications and equipment proposed in this report shall be installed in accordance with the appurtenances listed in Table 1 and the attached drawings for the determined available structural capacity to be effective.

We at *Tower Engineering Professionals* appreciate the opportunity of providing our continuing professional services to you and *Everest Infrastructure Partners.* If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: Gautam Sopal, E.I. / PAL

Respectfully submitted by:

Aaron T. Rucker, P.E.



10/27/2022

TABLE OF CONTENTS

1) INTRODUCTION

The tower is a 22.5 ± Foot Self-Support Tower mapped by Hightower Solutions in August of 2017. The original design standard and wind speed were unavailable for review. The tower has been modified per reinforcement drawings prepared by Tower Engineering Professionals in February of 2021. All information provided to TEP was assumed to be accurate and complete.

2) ANALYSIS CRITERIA

TIA-222 Revision:	ANSI/TIA-222-H
Type of Analysis:	Feasibility
Structure Class:	II
Wind Speed:	118 mph (Ultimate)
Exposure Category:	C
Topographic Category:	1 (Kzt = 1.0)
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic Design Category:	B
Seismic Ss:	0.190
Seismic S1:	0.055
Service Wind Speed:	60 mph

Table 1 - Existing, Proposed, and Reserved Antenna and Cable Information

Existing/ Proposed/ Reserved	Mount Level (ft)	Ant CL (ft)	Qty	Antenna Model	Mount Type	Qty Coax	Coax Size	Coax Location	Owner/ Tenant
Proposed	***63.0***	***63.0***	***2***	***CCI TPA65R-BU6DA-K***	Platform Mount	***1*** ***1***	***Fiber DC***	***AB Face***	***AT&T***
			1	***CCI TPA65R-BU8DA-K***					
			3	***Ericsson AIR6449 B77D***					
			3	***Ericsson AIR6419 B77G***					
			3	***Ericsson RRUS 32 B2***					
			3	***Ericsson 4415 B25***					
			1	***Raycap DC9-48-60-24-8C-EV***					
Existing	63.0	63.0	2	CCI DMP65R-BU6DA		12 6 2 1	7/8 DC Fiber RET	AB Face	AT&T
			1	CCI DMP65R-BU8DA					
			3	Ericsson RRUS 32 B30					
			3	Ericsson 4449 B5/B12					
			3	Ericsson 4478 B14					
			3	Ericsson 4426 B66					
			2	Raycap DC6-48-60-18-8F					
To Be Removed	*63.0*	*63.0*	*3*	*Kathrein 800 10121*	-	-	-	-	*AT&T*
			2	*Quintel QS66512-2*					
			1	*CCI TPA-65R-LCUUUU-H8*					
			2	*CCI OPA65R-BU6DA*					
			1	*CCI OPA65R-BU8DA*					
			3	*Ericsson RRUS 32 B2*					
			6	*CCI TPX-070821*					
			3	*CCI DTMABP7819VG12A*					
			1	*Raycap DC6-48-60-0-8F*					

Notes:
1) Tower is on top of a 37.5-ft rooftop. All elevations are measured from ground level.

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Source
Tower Mapping Report	Hightower Solutions, dated August 22, 2017 Site No. CT1070 FA 10035030	Everest
Previous Structural Analysis	Malouf Engineering Intl., Inc., dated August 23, 2017 MEI Project ID: CT05236S-17V0	Everest
Mount Analysis Report	Hudson Design Group LLC, dated May 25, 2022 Job No. CT1070	Everest
Previous Modification Design	Tower Engineering Professionals, dated February 19, 2021 Project No. 257649.494504	TEP
Correspondence	Correspondence in reference to the existing, proposed, and reserved loading.	Everest

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

RISA-3D (version 17.0.4), a commercially available analysis software package, was used to model and analyze the foundation. Selected output from the analysis is included in Appendix B.

3.2) Analysis Assumptions

1) The tower and foundation were built and maintained in accordance with the manufacturer's specification.
2) The configuration of existing antennas, transmission cables, mounts and other appurtenances are as specified in the tower mapping report by TEP.
3) Unless specified by the client or tower mapping, the location of the existing and proposed coax is assumed by TEP and listed in Table 1.
4) All tower components are in sufficient condition to carry their full design capacity.
5) Serviceability with respect to antenna twist, tilt, roll, or lateral translation, is not checked and is left to the carrier or tower owner to ensure conformance.
6) All antenna mounts and mounting hardware are structurally sufficient to carry the full design capacity requirements of appurtenance wind area and weight as provided by the original manufacturer specifications. It is the carrier's responsibility to ensure compliance to the structural limitations of the existing and/or proposed antenna mounts. TEP did not analyze antennas supporting mounts as part of this structural analysis report.
7) The following material grades were assumed:
   a) Connection bolts: A325N
   b) Tower Legs and Bracing: A36
   c) Tower Base Frame Beams: A992
   d) Tower Base Frame Bracing: A36
8) All connections between members of the base frame and connections of the base frame to the building columns were assumed to be sufficient to develop the capacity of the frame members.

This analysis may be affected if any assumptions are not valid or have been made in error. Tower Engineering Professionals should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 3 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (lb)	ϕP_{allow} (lb)	% Capacity	Pass / Fail
T1	60 - 55	Leg	L3x3x5/16	1	-10727	44875	23.9	Pass
T2	55 - 50	Leg	L3x3x5/16	13	-16414	44875	36.6	Pass
T3	50 - 45	Leg	L3x3x5/16	25	-23890	44875	53.2	Pass
T4	45 - 40	Leg	L3x3x5/16	38	-21986	44875	49.0	Pass
T5	40 - 37.5	Leg	L3x3x5/16	53	-38373	61682	62.2	Pass
T1	60 - 55	Diagonal	L3x3x1/4	9	-7471	31599	23.6	Pass
T2	55 - 50	Diagonal	L3x3x1/4	21	-7879	31599	24.9	Pass
T3	50 - 45	Diagonal	L3x3x1/4	33	-8206	31599	26.0	Pass
T4	45 - 40	Diagonal	L3x3x1/4	51	8230	48084	17.1	Pass
T5	40 - 37.5	Diagonal	L3x3x1/4	61	-6038	44358	13.6	Pass
T2	55 - 50	Horizontal	L2 1/2x2x3/16	17	-3944	21196	18.6	Pass
T3	50 - 45	Horizontal	L2 1/2x2x3/16	29	-4135	21196	19.5	Pass
T4	45 - 40	Horizontal	L2 1/2x2x3/16	41	4135	22896	18.1	Pass
T1	60 - 55	Top Girt	L3x3x1/4	5	-1916	41083	4.7	Pass
T5	40 - 37.5	Top Girt	L2 1/2x2x3/16	57	4357	22896	19.0	Pass
							Summary	
						Leg (T5)	62.2	Pass
						Diagonal (T3)	26.0	Pass
						Horizontal (T3)	19.5	Pass
						Top Girt (T5)	19.0	Pass
						Bolt Checks	60.1	Pass
						RATING =	**62.2**	**Pass**

Table 4 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Tower Leg-Base Frame Connection	-	69.7	Pass
1	Base Frame	-	77.0	Pass

Structure Rating (max from all components) =	77.0%

Notes:
1) See additional documentation in "Appendix B - Additional Calculations" for calculations supporting the % capacity listed.

Table 5 - Dish Twist/Sway Results for 60 mph Service Wind Speed

Elevation (ft)	Dish Model	Beam Deflection		
		Deflection (in)	Tilt (deg)	Twist (deg)
-	-	-	-	-

4.1) Recommendations

1) If the load differs from that described in Table 1 of this report or the provisions of this analysis are found to be invalid, another structural analysis should be performed.
2) The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.
3) There was not sufficient information available to analyze the connections between members of the base frame or the connections of the base frame to the building columns. TEP recommends a connection mapping be performed to obtain dimensions and quantities of all connection plates and hardware so that a rigorous analysis can be performed.
4) Prior to acceptance of changed configuration a rigorous structural analysis shall be performed in order to determine the overall stability and the adequacy of the structural members, connections and building structure.

EXHIBIT 4

May 25, 2022

Centerline Communications
750 West Center Street, Suite #301
West Bridgewater, MA 02379

RE:	Site Number:	CT1070
	FA Number:	10035030
	PACE Number:	MRCTB051047
	PT Number:	2051A0Z81N
	Site Name:	MANCHESTER-EAST CENTER ST
	Site Address:	52 East Center Street Manchester, CT 06040

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by Centerline Communications to perform a mount analysis on the existing AT&T antenna/RRH mount to determine its capability of supporting the following additional loading:

- (2) DMP65R-BU6DA Antennas (71.2"x20.7"x7.7" – Wt. = 69 lbs. /each)
- (1) DMP65R-BU8DA Antenna (96.0"x20.7"x7.7" – Wt. = 87 lbs. /each)
- (3) 4449 B5/B12 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)
- (3) 4478 B14 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)
- (3) 4426 B66 RRH's (14.9"x13.2"x5.8" – Wt. = 49 lbs. /each)
- (3) RRUS-32 B30 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (2) DC6-48-60-18-8F Surge Arrestors (24.0"x9.7"Ø – Wt. = 33 lbs. /each)
- **(2) TPA65R-BU6DA-K Antennas (71.2"x20.7"x7.7" – Wt. = 69 lbs. /each)**
- **(1) TPA65R-BU8DA-K Antenna (96.0"x20.7"x7.7" – Wt. = 87 lbs. /each)**
- **(3) AIR6419 Antennas (31.1"x16.1"x7.3" – Wt. =66 lbs. /each)**
- **(3) AIR6449 Antennas (30.6"x15.9"x10.6" – Wt. = 82 lbs. /each)**
- **(3) 4415 B25 RRH's (16.5"x13.4"x5.9" – Wt. = 46 lbs. /each)**
- **(1) DC9-48-60-24-8C-EV Surge Arrestor (24.0"x9.7"Ø – Wt. = 33 lbs. /each)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mount. HDG's subconsultant,ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mount on May 4, 2022.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R16.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 125 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.50 in. An escalated ice thickness of 1.60 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_S, of 0.178 and a spectral response acceleration parameter at a period of 1 second, S_1, of 0.064.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 2.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing self supporting tower with threaded rods secured to the tower leg and face. HDG considers the threaded rods as the governing connection members.

Based on our evaluation, we have determined that the existing mount **IS CAPABLE** of supporting the proposed installation.

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing Mount Rating	3	LC5	65%	**PASS**

Reference Documents:

- Mount Mapping prepared by ProVertic LLC, dated May 13, 2022

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mount has been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC

Michael Cabral
Vice President

Daniel P. Hamm, PE
Principal

EXHIBIT 5

Radio Frequency Exposure Analysis Report

December 28, 2022

Centerline on behalf of AT&T

AT&T Site Name: MANCHESTER-EAST CENTER ST
AT&T Site Number: CT1070
FA#: 10035030
USID: 59362

Site Address: 52 EAST CENTER STREET, MANCHESTER, CT 06040

Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2023

Signed 28 December 2022

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Roof Level):	546.96871 µW/cm2
Cumulative General Population % MPE (Roof Level):	60.84185%
Cumulative Calculated Power Density (Ground Level):	76.43419 µW/cm^2
Cumulative General Population % MPE (Ground Level):	8.70068%

December 28, 2022

Centerline
Attn: Jennifer Iliades, Project Manager
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **MANCHESTER-EAST CENTER ST**

Centerline Communications, LLC ("Centerline") was contracted to analyze the proposed AT&T facility at **52 EAST CENTER STREET, MANCHESTER, CT 06040** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu W/cm^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{MHz}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of 1 mW/cm^2 (1000 $\mu W/cm^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.

Calculation Methodology

IXUS electromagnetic energy (EME) calculation software was used to assess the RF field levels presented in this study. IXUS software uses a fast and accurate EME calculation tool that allows for the determination of RF field strength in the vicinity of radio communication base stations and transmitters. At its core, the IXUS EME calculation module implements evaluation techniques detailed in the ITU-T K.61, CENELEC EN 50383, and IEC 62232 specifications and referenced in *C95.3 IEEE Recommended Practice for Measurements and Computations of Electric, Magnetic, and Electromagnetic Fields with Respect to Human Exposure to Such Fields, 0 Hz to 300 GHz*. The EME calculation result at any point in 3D space is achieved via a synthetic ray tracing technique, a conservative cylindrical envelope method, or through full-wave electromagnetic simulation. The ray tracing method is an advanced computation method described in IEC 622322 where the power is summed from elemental sources representing the individual components of the antenna which are selected by an analysis of published manufacturer datasheets and horizontal and vertical antenna pattern information. The selection of the solution method is determined by the particular antenna being considered.

In order to determine the spatial power density for comparison to the FCC limits, IXUS performs a spatial average of power density values between 0-6’ above the specified study plane (e.g., ground level).

Data & Results

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the roof and ground levels.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at the roof and ground levels (0-6' spatial average). The results from highest cumulative sample point at the roof and ground levels surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contributions to the cumulative power density and % MPE for each antenna/frequency band are listed in the tables below. The cumulative power density and cumulative % MPE are displayed at the bottom of each table.

Maximum Calculated Cumulative Power Density @ Roof Level

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density ($\mu W/cm^2$)	General Population MPE Limit ($\mu W/cm^2$)	General Population % MPE
AT&T A 1	CCI TPA65R-BU6D	700	12.35	63.00	4.00	30.00	2061.49	19.28733	466.67	4.13300
AT&T A 1	CCI TPA65R-BU6D	1900	15.95	63.00	4.00	30.00	4722.60	39.52000	1000.00	3.95200
AT&T A 1	CCI TPA65R-BU6D	2100	16.25	63.00	4.00	30.00	5060.36	41.76000	1000.00	4.17600
AT&T A 2	ERICSSON AIR6419	3400	23.05	64.75	1.00	54.22	10943.58	128.60000	1000.00	12.86000
AT&T A 3	ERICSSON AIR6449	3700	23.55	61.25	1.00	86.75	19645.79	239.50000	1000.00	23.95000
AT&T A 4	CCI DMP65R-BU6D	700	11.85	63.00	4.00	30.00	1837.30	19.62333	466.67	4.20500
AT&T A 4	CCI DMP65R-BU6D	850	12.45	63.00	4.00	30.00	2109.51	21.81667	566.67	3.85000
AT&T A 4	CCI DMP65R-BU6D	2300	16.25	63.00	4.00	18.75	3162.72	24.54000	1000.00	2.45400
AT&T B 5	CCI TPA65R-BU6D	700	12.35	63.00	4.00	30.00	2061.49	0.09361	466.67	0.02006
AT&T B 5	CCI TPA65R-BU6D	1900	15.95	63.00	4.00	30.00	4722.60	0.18060	1000.00	0.01806
AT&T B 5	CCI TPA65R-BU6D	2100	16.25	63.00	4.00	30.00	5060.36	0.19070	1000.00	0.01907
AT&T B 6	ERICSSON AIR6419	3400	23.05	64.75	1.00	54.22	10943.58	3.21900	1000.00	0.32190
AT&T B 7	ERICSSON AIR6449	3700	23.55	61.25	1.00	86.75	19645.79	7.86900	1000.00	0.78690
AT&T B 8	CCI DMP65R-BU6D	700	11.85	63.00	4.00	30.00	1837.30	0.07971	466.67	0.01708
AT&T B 8	CCI DMP65R-BU6D	850	12.45	63.00	4.00	30.00	2109.51	0.07463	566.67	0.01317
AT&T B 8	CCI DMP65R-BU6D	2300	16.25	63.00	4.00	18.75	3162.72	0.10670	1000.00	0.01067
AT&T C 9	CCI TPA65R-BU8D	700	13.45	63.00	4.00	30.00	2655.71	0.00276	466.67	0.00059
AT&T C 9	CCI TPA65R-BU8D	1900	15.95	63.00	4.00	30.00	4722.60	0.00495	1000.00	0.00049
AT&T C 9	CCI TPA65R-BU8D	2100	16.15	63.00	4.00	30.00	4945.17	0.00511	1000.00	0.00051
AT&T C 10	ERICSSON AIR6419	3400	23.05	64.75	1.00	54.22	10943.58	0.16740	1000.00	0.01674
AT&T C 11	ERICSSON AIR6449	3700	23.55	61.25	1.00	86.75	19645.79	0.30110	1000.00	0.03011
AT&T C 12	CCI DMP65R-BU8D	700	12.95	63.00	4.00	30.00	2366.91	0.00730	466.67	0.00157
AT&T C 12	CCI DMP65R-BU8D	850	13.85	63.00	4.00	30.00	2911.93	0.00361	566.67	0.00064
AT&T C 12	CCI DMP65R-BU8D	2300	15.95	63.00	4.00	18.75	2951.63	0.00333	1000.00	0.00033
Unknown A 13	GENERIC OMNI	450	10	76.00	1.00	25.25	250.00	0.01187	300.00	0.00396
							Cumulative Power Density:	**546.96871 $\mu W/cm^2$**	**Cumulative % MPE:**	**60.84185%**

Maximum Calculated Cumulative Power Density @ Ground Level
(Location: approximately 192' southeast of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/ Channel (watts)	ERP (watts)	Calculated Power Density (µW/cm2)	General Population MPE Limit (µW/cm2)	General Population % MPE
AT&T A 1	CCI TPA65R-BU6D	700	12.35	63.00	4.00	30.00	2061.49	0.01504	466.67	0.00322
AT&T A 1	CCI TPA65R-BU6D	1900	15.95	63.00	4.00	30.00	4722.60	0.00237	1000.00	0.00024
AT&T A 1	CCI TPA65R-BU6D	2100	16.25	63.00	4.00	30.00	5060.36	0.00225	1000.00	0.00023
AT&T A 2	ERICSSON AIR6419	3400	23.05	64.75	1.00	54.22	10943.58	0.38160	1000.00	0.03816
AT&T A 3	ERICSSON AIR6449	3700	23.55	61.25	1.00	86.75	19645.79	0.44850	1000.00	0.04485
AT&T A 4	CCI DMP65R-BU6D	700	11.85	63.00	4.00	30.00	1837.30	0.01123	466.67	0.00241
AT&T A 4	CCI DMP65R-BU6D	850	12.45	63.00	4.00	30.00	2109.51	0.01146	566.67	0.00202
AT&T A 4	CCI DMP65R-BU6D	2300	16.25	63.00	4.00	18.75	3162.72	0.00059	1000.00	0.00006
AT&T B 5	CCI TPA65R-BU6D	700	12.35	63.00	4.00	30.00	2061.49	4.07353	466.67	0.87290
AT&T B 5	CCI TPA65R-BU6D	1900	15.95	63.00	4.00	30.00	4722.60	0.60910	1000.00	0.06091
AT&T B 5	CCI TPA65R-BU6D	2100	16.25	63.00	4.00	30.00	5060.36	0.51470	1000.00	0.05147
AT&T B 6	ERICSSON AIR6419	3400	23.05	64.75	1.00	54.22	10943.58	23.16000	1000.00	2.31600
AT&T B 7	ERICSSON AIR6449	3700	23.55	61.25	1.00	86.75	19645.79	40.51000	1000.00	4.05100
AT&T B 8	CCI DMP65R-BU6D	700	11.85	63.00	4.00	30.00	1837.30	3.10380	466.67	0.66510
AT&T B 8	CCI DMP65R-BU6D	850	12.45	63.00	4.00	30.00	2109.51	2.97953	566.67	0.52580
AT&T B 8	CCI DMP65R-BU6D	2300	16.25	63.00	4.00	18.75	3162.72	0.14020	1000.00	0.01402
AT&T C 9	CCI TPA65R-BU8D	700	13.45	63.00	4.00	30.00	2655.71	0.01066	466.67	0.00229
AT&T C 9	CCI TPA65R-BU8D	1900	15.95	63.00	4.00	30.00	4722.60	0.00109	1000.00	0.00011
AT&T C 9	CCI TPA65R-BU8D	2100	16.15	63.00	4.00	30.00	4945.17	0.00091	1000.00	0.00009
AT&T C 10	ERICSSON AIR6419	3400	23.05	64.75	1.00	54.22	10943.58	0.17940	1000.00	0.01794
AT&T C 11	ERICSSON AIR6449	3700	23.55	61.25	1.00	86.75	19645.79	0.23860	1000.00	0.02386
AT&T C 12	CCI DMP65R-BU8D	700	12.95	63.00	4.00	30.00	2366.91	0.02466	466.67	0.00528
AT&T C 12	CCI DMP65R-BU8D	850	13.85	63.00	4.00	30.00	2911.93	0.01337	566.67	0.00236
AT&T C 12	CCI DMP65R-BU8D	2300	15.95	63.00	4.00	18.75	2951.63	0.00069	1000.00	0.00007
Unknown A 13	GENERIC OMNI	450	10	76.00	1.00	25.25	250.00	0.00088	300.00	0.00029
							Cumulative Power Density:	**76.43419 µW/cm2**	**Cumulative % MPE:**	**8.70068%**

Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at the roof and ground levels that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **compliant** with FCC rules and regulations.

Matt Schulzinger
RF EME Technical Writer
Centerline Communications, LLC

EXHIBIT 6

TOWN OF MANCHESTER ZONING PERMIT

41 Center Street **Please Print or Type** Telephone: 647-3052

TO: ZONING ENFORCEMENT OFFICER

Certification of Zoning Approval is hereby requested for:

application of a Building Permit Other:

Decision is based on the following information:

1.) Location: (street and no. or lot no.) 52 East Center Street, Manchester, CT

2.) Owner's Name: SOUTHERN NEW ENGLAND TELEPHONE COMPANY

3.) Builder: CFM CONSTRUCTION CORPORATION

Address: 150 Sycamore Street, Glastonbury, CT 06033

4.) Check Type of Construction: /___/ New Building /___/ Addition /XXX/ Alteration /___/ Repair /___/ Miscellaneous

5.) Job Description* Alterations to existing second floor room as per drawings for new cellular site room. Electrical and mechanical work as per drawings. New tower installation as per drawings. Miscellaneous ~~carpentry, ceiling work, roof penetrations, painting, etc.~~

(*Plot Plan required for all additions to buildings and accessory structures).

6.) Other Buildings Not Shown: _____

7.) Merestones or Stakes Indicating Lot Boundaries? _____

8.) Distance from Street Line: _____

9.) Distance from Side Line: Left _____ Right _____

10.) Distance from Building to Rear Lot Line: _____

11.) Proposed Use: _____

(For example: manufacturing, office, storage, dwelling, school, bath, garage)

12.) /___/ Sewer /___/ Septic /___/ Water /___/ Well

THIS PERMIT SHALL NOT BE EFFECTIVE FOR 24 HOURS AFTER APPROVAL

I hereby certify that the above statements are true to the best of my knowledge and belief.

7/20/93 Date | Charles F Meyer Jr Signature | 203/633-7319 Telephone

---

FOR OFFICE USE ONLY

This is to certify that the above-stated information is a permitted and lawful use as controlled by the Zoning Regulations of the Town of Manchester, Connecticut, upon authorized signature of the Zoning Enforcement Officer.

Zoning Permit Issued: 7/26/93 Conditions: provide evidence of Zoning council approval if required

Zone: B-3 Approved By: _____ Zoning Enforcement Officer

ADDITIONAL APPROVAL FOR BUSINESS AND INDUSTRIAL USE

Date	Engineering	Date	Police	Date	Fire
/		/			

Comments: utility structure exempt from height requirements -

Additional Permits May Be Required From: _____ Dept(s).

for _____

EXHIBIT 7

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

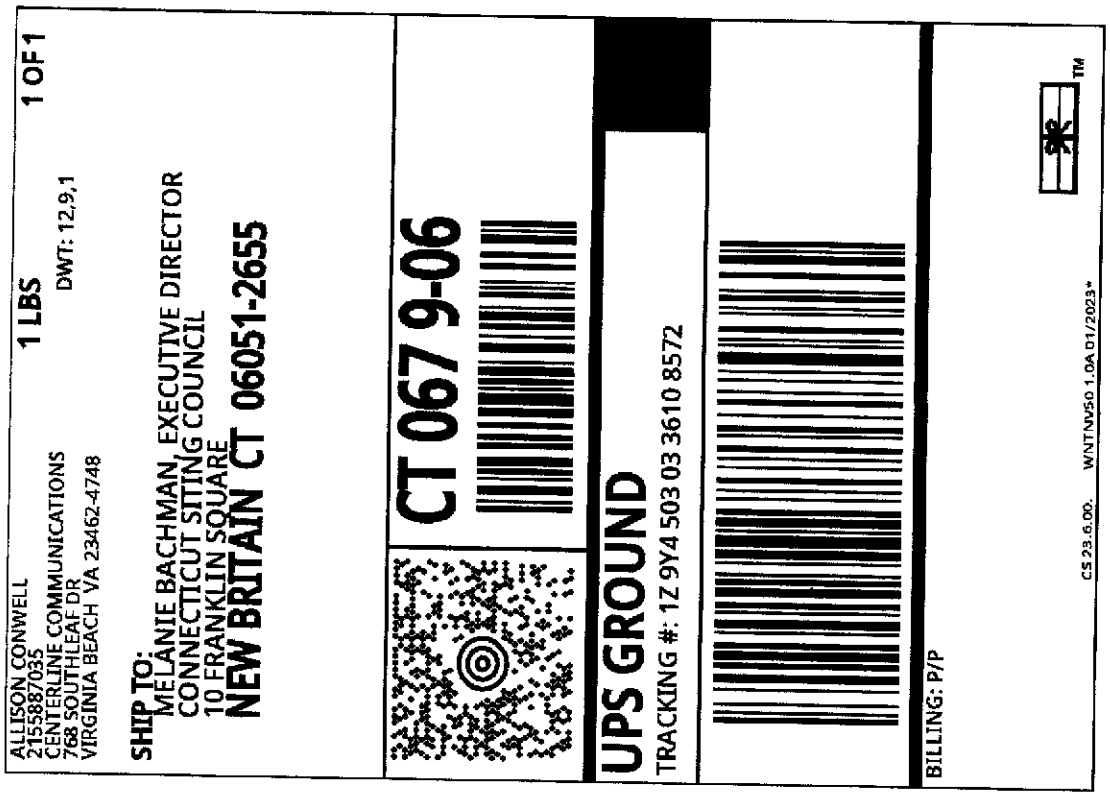
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
ADVANCE AUTO PARTS STORE 2890
4676 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
CVS STORE # 4935
4500 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
THE UPS STORE
2085 LYNNHAVEN PKWY
VIRGINIA BEACH ,VA 23456

FOLD HERE



UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

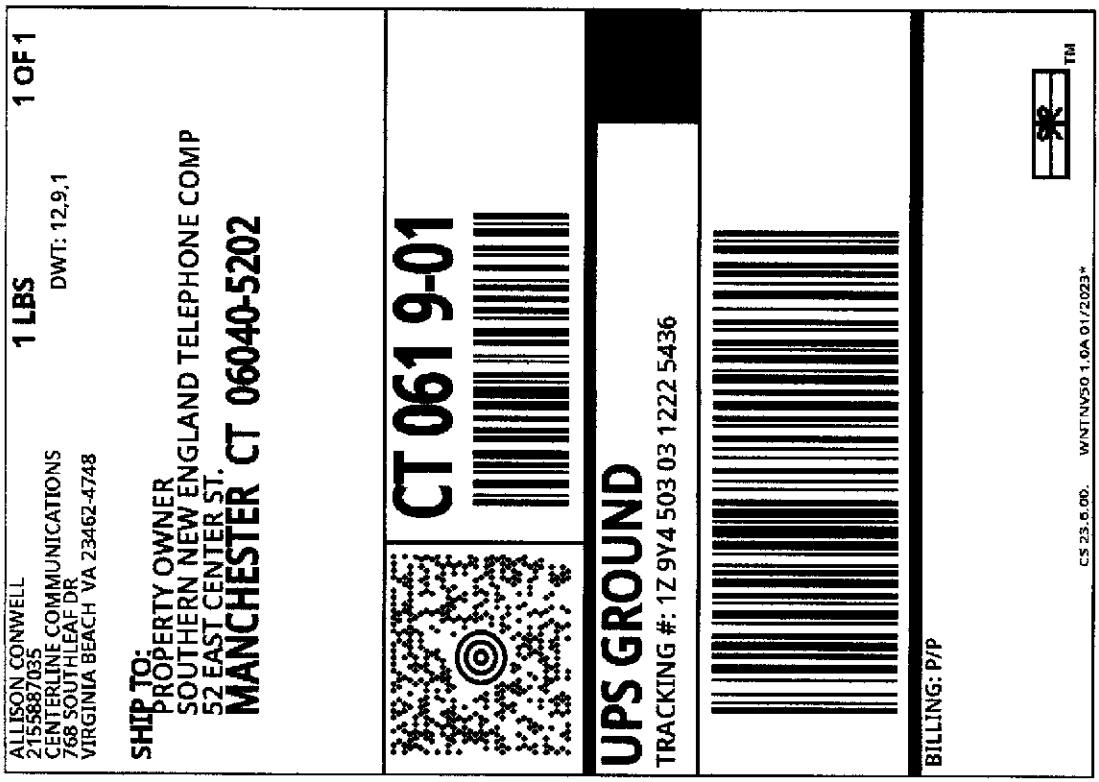
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
ADVANCE AUTO PARTS STORE 2890
4676 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
CVS STORE # 4935
4500 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
THE UPS STORE
2085 LYNNHAVEN PKWY
VIRGINIA BEACH ,VA 23456

FOLD HERE



UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

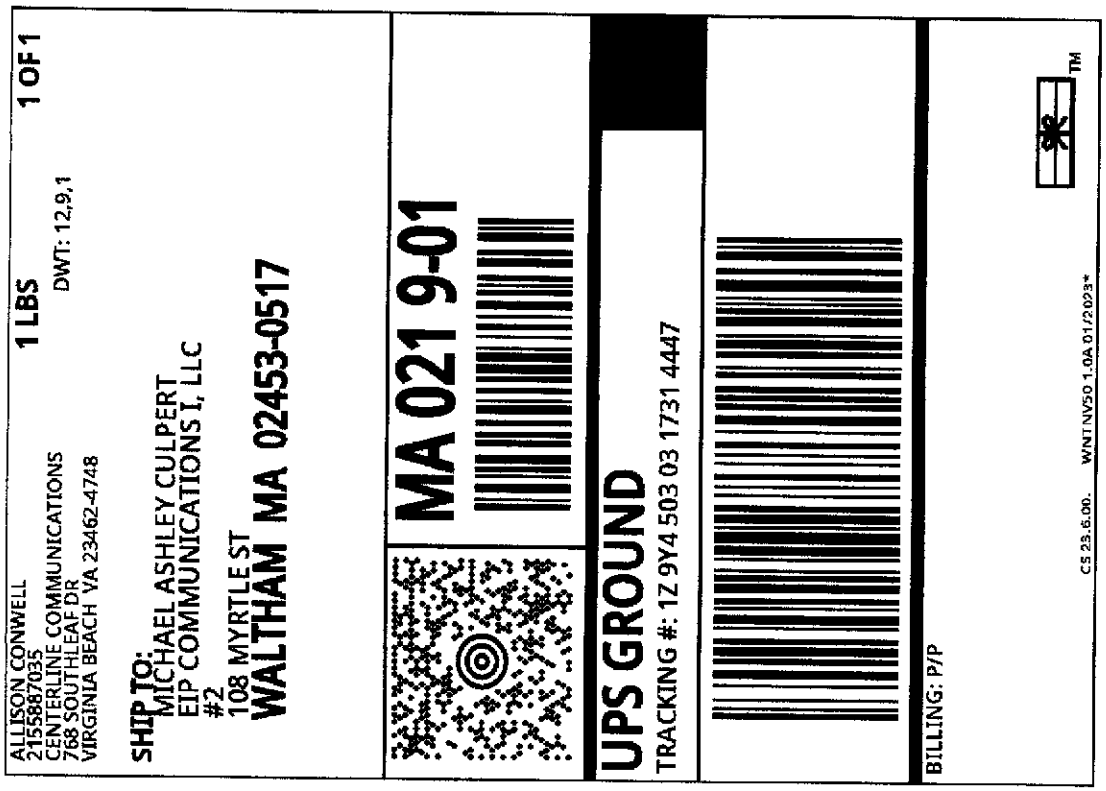
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
ADVANCE AUTO PARTS STORE 2890
4876 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
CVS STORE # 4935
4500 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
THE UPS STORE
2085 LYNNHAVEN PKWY
VIRGINIA BEACH ,VA 23456

FOLD HERE



UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

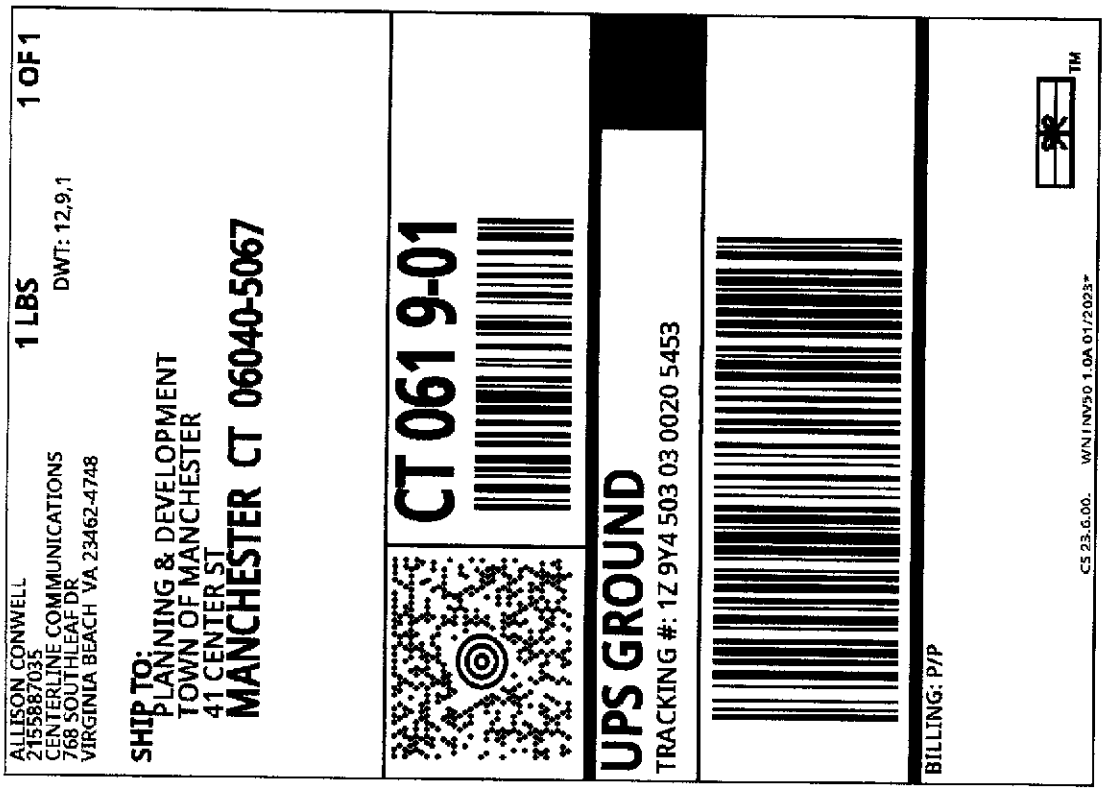
   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
ADVANCE AUTO PARTS STORE 2890
4676 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
CVS STORE # 4935
4500 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
THE UPS STORE
2085 LYNNHAVEN PKWY
VIRGINIA BEACH ,VA 23456

FOLD HERE



UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

UPS Access Point™
ADVANCE AUTO PARTS STORE 2890
4676 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
CVS STORE # 4935
4500 PRINCESS ANNE RD
VIRGINIA BEACH ,VA 23462

UPS Access Point™
THE UPS STORE
2085 LYNNHAVEN PKWY
VIRGINIA BEACH ,VA 23456

FOLD HERE